



Beni Suez University
Faculty of Veterinary Medicine
Department of physiology

Program Specification for Master Degree
2017-2018

A-Basic information:

- 1- Program title:** *MVSC.*,
- 2- Program type:** *Single*
- 3- Department offering program:** physiology department
- 4-Academic year:** *2017-2018*
- 5-Approval date of Department Council:**
- 6-Approval date of Faculty Council:**
- 7-External evaluator:**

B-Professional information:

1- Overall aims of the program:

- 1-Provide graduates the opportunity to develop communication skills in physiology..
- 2-Enable graduates to achieve competency in modern laboratory technology.
- 3- Allow graduates to develop physiological research project.
- 4-Develop the ability of graduate to engage critically with scientific literature and to critically review and present their own research data.
- 5-Use efficiently and improve the available resources for high benefit achievements in the field of physiology.

2- Intended learning outcomes of course (ILOs):

a- Knowledge and understanding:

On successful completion of this program the graduate should be able to:

- a1 - Outline the mutual influence between professional practice and its impacts on the environment.
- a2- Name legal and ethical principles for professional practice in the field of animal physiology.
- a3- underline the basics and principles of quality in professional practice in animal physiology.
- a 4- Define theories and fundamentals related to the field of animal physiology, as well as in related fields.
- a5- Record scientific developments in the field of animal physiology.

b- Intellectual skills:

On successful completion of master program the graduate should be able to:

- b1- Recognize information in the field of animal physiology and measurement to solve problems.
- b2- Linking knowledge to solve various professional problems .
- a3- Evaluate risk in professional practices related to field of animal physiology
- a4- The professional decision-making in the diverse professional contexts

c- Professional and practical skills:

On successful completion of this program the graduate should be able to:

- c1 - Master basic and modern professional skills in the field of animal physiology.
- c2 – Write professional reports.
- c3- Evaluate existing methods and tools in the field of physiology.

d- General and transferable skills:

On successful completion of this program the graduate should be able to:

- 1- use of different sources for information and knowledge
- 2- Manage time efficiently.
- 3-Use of information technology in the development of physiology professional practice.

4- Set the rules and indicators to evaluate the performance of others

3- Academic standers:

* The faculty mission, vision and strategic objective are confirmed to the academic standard. The learning outcomes are inline with the department and the faculty mission.

* Postgraduates NARS (March 2009) Master degree chapter issued by national authority for quality assurance and accreditation of education (NAQAAE) and Veterinary medicine post graduate academic standards (ARS) for the faculty of veterinary medicine, Beni-Suef University, Beni-Suef, Egypt are selected to confirm the appropriateness of the academic standards .

4- Program Structure and Contents

A- Program duration: At least two academic years from the approval of registration by the Faculty Council and maximum four years. The faculty council has the right to give the applicant another period not exceed two years according to the supervisor request

The first year for preliminary courses study, while the second year for researches and preparation of the Master Thesis.

B- Program structure: Hours/ week:

Basic course:-

Theoretical	4	Practical	7	Total	11
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Subsidiary courses:-

Theoretical	4-8	Practical	6-8	Total	10-16
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☒ **Master Thesis: completed during the second academic year.**

C- Program courses:

1- basic courses

Code	Course title	Hours /week		Academic year	Teaching duration
		theoretical	practical		
	Master Principal course	3	4	Preliminary year	36 weeks
	Research methods	1	3	Preliminary year	36 weeks

2-subsidary courses

Code	Course title	Hours /week		Academic year	Semester
		theoretical	practical		
	Selected (3-5) courses depending on the thesis title from the various Faculty Master courses other than specialty of the Master.	5-6	6-9	Preliminary year	36 weeks

D- Courses contents

See master courses specification

5- Program Admission Requirements

a- According to the Faculty of Veterinary Medicine, Beni-Suef University Bylaws for Post Graduate Programs, applicants should have BVSc., from an Egyptian University or equivalent degree from any approved university, with at least general grade (Good) and (Very Good) in the specialized subject.

b- Also if the student has postgraduate diploma in one specialization of total (3 hours) at least with general grade (Good) and (Very good) in the specialized subject.

c- According to Beni-Suef University requirements, all applicants for postgraduate studies should fulfill preliminary courses on the following subjects:

1- English language (Toefl or equivalent degree)

2- Computer skills (ICDL) or equivalent computer course.

d- Admission to the program is open during March and September annually after at least one year from the BVSc degree.

6. Regulations for Progression and Program Completion

After finishing the preliminary courses, the graduate student will be eligible to sit for the examination according to the following roles:

No. of course teaching hours/ week	Allowed time for written exam.	Degree	
		Theoretical	Practical and oral exam
≥ 3 hours	3 hours	50	50
≤ 3 hours	2 hours	25	25

- It is mandatory to pass all the courses each chance except biostatic (212)
- The passing mark in each exam is $\geq 60\%$.
- The faculty council has the right to deprive the applicant from entering the exams if his attendance courses is less than 75% .

Qualification grades:

Excellent	≥ 90
Very good	≥ 80
Good	≥ 70
Pass	≥ 60
Failed	45 to less than 60 weak
	Less than 45 Very weak

- After passing, the graduate starts research for Master Thesis at the beginning of the second year.
- The candidate will receive his degree after evaluating and approving the thesis by a committee according to University regulations.
- The applicant should publish at least two scientific papers from the thesis in local or international journals

7-Graduate student assessment

A: Assessment Tools

According the Faculty of Veterinary Medicine, Beni-Suef University Bylaws for Post Graduate, students should be assessed at the end of preliminary year and the thesis should be evaluated and approved by a committee according to University regulations.

1-Preliminary year

Assessments methods for	practical exam	Oral exam	Written exam
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each course			
Time of Assessments	By the end of the year	By the end of the year	By the end of the year
Marks	25	25	50

Assessments methods	Matrix alignment of the measured ILOs			
	K&U (a)	I.S (b)	P&P. S (c)	G&T. S (d)
written exam	a1,a3,a4,,a6	b1,b2,b4	c1,c3,c4,	
Practical exam	a3,a4,a5	b1,b2,b4	c1,c2,c5	d1,d2
Oral exam	a1,a2,a3,a4,a5	b1,b2,b3	c1,c2	d1,d3,d4,5,

2-Master Thesis:

All master-degree students should prepare a thesis in physiology. The department council must approve the protocol (plan) of the research. The thesis is supervised by one or more staff members and may include other specialties according to the nature of the research. The thesis should be evaluated and approved by a committee according to University regulations. The applicant should publish at least one scientific paper from the thesis in local or international journals

B- Matrix alignment of the measured ILOs

Course coordinator

Head of the Department

Program aims – ILOS Matrix for the Master Degree

مصفوفة اهداف البرنامج مع مخرجات التعلم المستهدفة

Program ILOS		Program aims				
		1- 1-Provide graduates the opportunity to develop communication skills in physiology.	2- Enable graduates to achieve competency in modern laboratory technology.	3- Allow graduates to develop practical physiological research project.	4- Develop the ability of graduate to engage critically with scientific literature and to critically review and present their own research data.	5- Use efficiently and improve the available resources for high benefit achievements in the field of physiology.
Knowledge and understanding	a1 - Outline the mutual influence between professional practice and its impacts on the environment.		√			√
	a2- Name legal and ethical principles for professional practice in the field of animal physiology.			√		
	a3- underline the basics and principles of quality in professional practice in animal physiology.	√		√		
	a 4- Define theories and fundamentals related to the field of animal physiology, as well as in related fields.		√		√	
	a5- Record scientific developments in the field of animal physiology.	√				√
Intellectual skills	b1- Recognize information in the field of animal physiology and measurement to solve problems.	√				√
	b2- Linking knowledge to solve various professional problems .			√		√
	a3- Evaluate risk in professional practices related to field of animal physiology			√	√	

Program ILOS		Program aims				
		1- 1-Provide graduates the opportunity to develop communication skills in physiology.	2- Enable graduates to achieve competency in modern laboratory technology.	3- Allow graduates to develop practical physiological research project.	4- Develop the ability of graduate to engage critically with scientific literature and to critically review and present their own research data.	5- Use efficiently and improve the available resources for high benefit achievements in the field of physiology.
	a4- The professional decision-making in the diverse professional contexts					√
Practical and professional skills	c1 - Master basic and modern professional skills in the field of animal physiology.	√				√
	c2 – Write professional reports.			√		√
	c3- Evaluate existing methods and tools in the field of physiology.	√				√
general and transferable skills	d1- use of different sources for information and knowledge			√	√	
	.d2-Mange time efficiently	√			√	
	d3- Use of information technology in the development of physiology professional practice.		√			√
	d4- Set the rules and indicators to evaluate the performance of others.			√		

Master Program Specification Matrix (Program Courses with ILOS)

Program ILOs		courses
Knowledge and understanding	a1	M-23, M-24,M-25, M-26, M-27, M-28, M-29, M-30, M-31, M-33 ,M-156,M-47 ,thesis and MBC
	a2	M-23, M-24,M-25, M-26, M-27, M-28, M-29, M-30, M-31, M-33, M-35,M-36 M-37. and MBC
	a3	M-23, M-24,M-25, M-26, M-27, M-28, M-29, M-30, M-31, M-33 ,M-38 ,M-39 , thesis. and MBC
	a4	M-23, M-24,M-25, M-26, M-27, M-28, M-29, M-30, M-31, M-33,M-32,M-75,M-76,M-77 ,thesis. and MBC
	a5	M-23, M-24,M-25, M-26, M-27, M-28, M-29, M-30, M-31, M-33, and MBC
Intellectual skills	b1	M-1, M-2, M-3, M-4, M-5, M-6, M-7, M-8, M-9, M-10,M-23, M-24,M-25, M-26, M-27, M-28, M-29, M-30, M-31, M-33, thesis . and MBC
	b2	M-23, M-24,M-25, M-26, M-27, M-28, M-29, M-30, M-31, M-33,M-34, M-35, M-36 , thesis and MBC
	b3	M-23, M-24,M-25, M-26, M-27, M-28, M-29, M-30, M-31, M-33, M-37, M-38 M-39 , thesis and MBC
	b4	M-23, M-24,M-25, M-26, M-27, M-28, M-29, M-30, M-31, M-33,M-75, M-76,M-77 and MBC
Professional and practical skills	c1	M-23, M-24,M-25, M-26, M-27, M-28, M-29, M-30, M-31, M-33,M-34, M-35, M-36, M-37 ,M-38 and thesis.
	c2	M-23, M-24,M-25, M-26, M-27, M-28, M-29, M-30, M-31, M-33 , thesis . and MBC
	c3	M-23, M-24,M-25, M-26, M-27, M-28, M-29, M-30, M-31, M-33 , thesis. and MBC
General and transferable skills	d1	M-33,M-156, M-47, M-109 and thesis.
	d2	M-33,M-75, M-76, M-77 and thesis .
	d3	M-33,M-54, M-156 and thesis .
	d4	M-33,M-47 and thesis.
	d5	

Program course ILOs matrix

Academic standers Program ILOs		Knowledge and understanding						Intellectual skills							Professional and practical skills				General and transferable skills							
		a1	a 2	a 3	a 4	a5	a6	b1	b 2	b 3	b4	b 5	b6	b 7	c1	c2	c3	c4		d 1	d2	d3	d 4	d5	d6	d7
Knowledge and understanding	a1			√																						
	a2				√																					
	a3					√																				
	a4						√																			
	a5								√																	
Intellectual skills	b1							√				√														
	b2							√																		
	b3								√																	
	b4									√		√														
	b5												√													
Professional and practical skills	c1																√									
	c2																	√								
	c3													√												
	c4														√											
	c5																									
General and transferable skills	d1																		√					√		
	d2																				√					
	d3																					√			√	
	d4																					√				



Course specification of postgraduate

1-Basic information

Course Code:	MBC-PHYS
Course title :	Physiology and applied physiology
Program title:	Master Degree of Veterinary Medical Sciences (Animal physiology).
Contact hours/ week	Lecture: 3hours Practical: 4 hours Total: 7hours
Approval Date	

2-Professional information

Overall aims of course:

This course aims to:

- 1-Create new knowledge and understanding through the process of research & inquiry.
- 2- Provide graduates the opportunity to develop communication & teaching skills.
- 3- Enable graduates to achieve competency in modern laboratory technology.
- 4- Demonstrate an awareness of the connections between disciplines.

3- Intended learning outcomes of course (ILOs)

a- Knowledge and understanding:

By the end of this course the student should be able to:

- a1-mention advanced research techniques used in the field of animal physiology.
- a2-Critically apply their knowledge of physiology research methods by evaluating the utility of those techniques to specific research questions.
- a3- identify and understanding of physiology to the critical analysis and discussion of the scientific literature.

b-Intellectual skills

By the end of this course the student should be able to:

- b1-evaluate , conceptualize and define research problems and questions
- b2-Critically evaluate their own research data and develop new approach for solving their research questions and technical problems.
- b3-clarify , summarize and evaluate prior researches finding in a specific area

C- Professional and practical skills

By the end of this course the student should be able to:

- c1-Apply the principles of good experimental design and analysis to their own research project .
- c2-Select and perform relevant statistical analysis on data obtained for their own research .
- c3-Perform essential laboratory skills that underpin techniques associated with physiology research .

d- General and transferable skills

By the end of studying the course, the student should be able to:

- d1-Demonstrate an ability to learn independently in preparation for a career of lifelong learning .
- d2-Demonstrate information retrieval and library skills
- d3-Demonstrate interpersonal skills and team working ability by the successful completion of collaborative learn assignment and the honors researches projects



Course specification of postgraduate

4-Topics and contents

Course	Topic	No. of hours	Lectures	Practical
(Lec. h./week, Pract h./week) 3hrslec, 4hrsprac, 7hrstotal	Physiology of Mammalian endocrine & reproduction	21hrs	9hrs	12hrs
	Poultry physiology (advanced)	21hrs	9hrs	12hrs
	Fish physiology	21hrs	9hrs	12hrs
	Physiology of muscle & Nerve	21hrs	9hrs	12hrs
	Physiology of ruminants	21hrs	9hrs	12hrs
	Physiology of environment, adaptation	21hrs	9hrs	12hrs
	Physiology of blood	21hrs	9hrs	12hrs
	Physiology of digestion , metabolism and energy	21hrs	9hrs	12hrs
	Pollution	21hrs	9hrs	12hrs
	Radioactive isotopes and its biological uses	21hrs	9hrs	12hrs
	Cell Physiology	21hrs	9hrs	12hrs
	PHYSIOLOGY OF ORGANS FUNCTION	21hrs	9hrs	12hrs
	Total	252hrs	108hrs	144hrs

5-Teaching and learning methods

- 5.1- Lectures (brain storm, discussion) using board, data shows
- 5.2- Self learning by preparing essays and presentations (computer researches and library)
- 5.3- Practical (models, samples of stained tissues and data show).

7-Student assessment

7.1. Assessments methods:

Method	Matrix alignment of the measured ILOs/ Assessments methods			
	K&U	I.S	P&P.S	G.S
Final Exam	a1- a2- a3	b1- b2- b3	c1- c2- c3	d1-d2-d3
Practical Exam	a1- a2- a3	b1- b2- b3	c1- c2- c3	d1-d2-d3
Oral Exam	a1- a2- a3	b1- b2- b3	c1- c2- c3	d1-d2-d3

7.2. Assessment schedules

Method	Week(s)
Writing exam	Last weak
Practical exam	Last weak
Oral exam	Last weak



Beni-Suef University
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Course specification of postgraduate

7.3. Weight of assessments

Assessment	Weight of assessment
Writing exam	50%
Practical exam	25%
Oral exam	25%
total	100%

8- List of references

8.1. Notes and books Student handbook of physiology part prepared by the department staffs

8.2. Essential books: * Textbook of Medical Physiology. Guyton & Hall 9th Edition. 1996. W.B. Saunders Co. (Harcourt Brace I.E.) Philadelphia, USA.

* Principles of Anatomy and Physiology. 4th edition. Gerard J. Tortora –Nicholas P. Anagnostakos 1975.

* Physiology 3rd edition. John Buuock, Joseph Boyle III and Michael B. Wang, 1995. National Medical Series for Independent Studies. Middle East Edition. Mass Publishing CO. 9Al Tahrir St., Dokki, Giza, Egypt.

8.3. Recommended texts * Animal physiology. ITTA Sambasiviah, A.P. Kamalakara RAO and S. Augustine Chellappa 1987.

* Physiology of Domestic Animals. William O. Reece 1991.

* Experiments in Physiology 6th Edition. Gerard P. Tharp 1993.

8.4. Journals, Websitesetc

Journals: * Egyptian J. of Basic and Applied Physiology. Cairo, Egypt

Websites:

WWW.Science direct

WWW. Pubmed.com

[WWW.Scholar](http://WWW.Scholar.google.com) google.com

[WWW.welly](http://WWW.wellyinterscience.com) interscience

Course Coordinators

Head of Department



Beni Suef University
Faculty of Veterinary Medicine

Course specification

	Topics	week	Intended learning outcomes of course (ILOs)			
			K and U (a)	I.S (b)	P. P.S. (c)	G.T.S (d)
1	Physiology of Mammalian endocrine & reproduction	1 st w- 3 th w	1,2,3	1,2,3	1,2,3	1,2,3
2	Poultry physiology (advanced)	4 th w- 7 th w	1,2,3	1,3	1,2,3	1,2,3
3	Fish physiology	8 th w- 11 th w	1,2	1,2,3	1,2,3	1,2,3
4	Physiology of muscle & Nerve	12 th w- 15 th w	1,2	1,2,3	1,2,3	1,2,3
5	Physiology of ruminants	16 th w- 19 ^h w	1,2,3	1,2,3	1,2,3	1,2,3
6	Physiology of environment, adaptation	20 th w- 22 th w	1,2,3	1,3	1,2,3	1,2,3
7	Physiology of blood	23 th w- 25 th w	1,2	1,2,3	1,2,3	1,2,3
8	Physiology of digestion , metabolism and energy	26 th w- 28 th w	1,2	1,2,3	1,2,3	1,2,3
9	Pollution	30 th w- 31 th w	1,2,3	1,2,3	1,2,3	1,2,3
10	Radioactive isotopes and its biological uses	32 th w- 34 th w	1,2,3	1,3	1,2,3	1,2,3
11	Cell Physiology	34 th w- 35 th w	1,2	1,2,3	1,2,3	1,2,3
12	PHYSIOLOGY OF ORGANS FUNCTION	35 th w- 36 th w	1,2	1,2,3	1,2,3	1,2,3



Beni Suef University
Faculty of Veterinary Medicine

Course specification



Beni Suef University
Faculty of Veterinary Medicine



Course specification of postgraduate

Course Code:	M-23
Course title :	Physiology of mammalian endocrine glands and reproduction
Program title:	Master Degree of Veterinary Medical Sciences (Animal physiology)
Contact hours/ week	2hr(practical)-2hrs(lecture) 4hrs(total)
Approval Date	

2-Professional information

Overall aims of course:

This course aims to:

- 1- ensure that students reserve a comprehensive theoretical base in veterinary endocrinology and reproduction.
- 2- provide students with the opportunities to develop communication, practical scientific research and teaching skills.
- 3- provide the students with the ability to advance biotechnology science and disseminate it for animal production.

3- Intended learning outcomes of course (ILOs)

a- Knowledge and understanding:

By the end of this course the student should be able to:

- a.1- describe the location and structure of endocrine glands.
- a.2- explain the structural and functional relationship of endocrine glands.
- a.3- identify the hormones produced by endocrine glands and specify their physiological effects.
- a.4- describe the components of male and female reproductive system.
- a.5- outline the process of gametogenesis.
- a.6- summarize the anatomical, physiological and hormonal aspects of reproductive system.

b-Intellectual skills

By the end of this course the student should be able to:

- b.1-To deal with ethical and professional issues pertaining to large and small animal production.
- b.2-To compare the physiological effects and mechanism of action of hormones regulating body functions.
- b.3-To discuss the subjects related to endocrinology and reproduction in the form of seminars, reports and presentations.

C- Professional and practical skills

By the end of this course the student should be able to:

- c.1- collect, examine and describe samples of semen and vaginal smears.
- c.2- demonstrate practical skills in handling small and large animals.



c.3- differentiate between different phases of estrous cycle in farm animals.

c4- To undertake advanced laboratory techniques used in animal production.

d- General and transferable skills

By the end of studying the course, the student should be able to:

d.1- demonstrate a spirit of intellectual curiosity through research work.

d.2- demonstrate a degree of independence in research and use self initiatives in solving problems.

d.3- demonstrate the ability to learn independently for a career of lifelong learning.

4-Topics and contents

Course	Topic	No. of hours	Lectures	Practical
(Lec. h./week, Pract h./week) Lec, 2hrs/wk, prac 2hrs/wk	Location & structure of endocrine glands	18hrs	9hrs	9hrs
	Hormones secreted by endocrine glands	18hrs	9hrs	9hrs
	Physiological effects of hormones	18hrs	9hrs	9hrs
	Abnormal levels of hormones	18hrs	9hrs	9hrs
	Structure of male & female reproductive system	18hrs	9hrs	9hrs
	Ovarian and uterine cycles	18hrs	9hrs	9hrs
	Hormones secreted by reproductive system	18hrs	9hrs	9hrs
	Control of reproduction	18hrs	9hrs	9hrs
	Total	144	72hrs	72hrs

5-Teaching and learning methods

5.1- Lectures (brain storm, discussion) using board, data shows

5.2- Self learning by preparing essays and presentations (computer researches and library)

5.3- Practical (models, samples of stained tissues and data show).

7-Student assessment

7.1. Assessments methods:

Method	Matrix alignment of the measured ILOs/ Assessments methods			
	K&U	I.S	P&P.S	G.S
Final Exam	a1- a2- a3-a4-a5-a6-	b1- b2- b3-	c1- c2- c3- c4	d1-d2-d3
Practical Exam	a1- a2- a3-a4-a5-a6	b1- b2- b3-	c1- c2- c3-	d1-d2-d3



			c4	
Oral Exam	a1- a2- a3- a4-a5-a6	b1- b2- b3-	C1-c2-c3c4	d1-d2-d3-

7.2. Assessment schedules

Method	Week(s)
Writing exam	Last Week
Practical exam	Last Week
Oral exam	Last Week

7.3. Weight of assessments

Assessment	Weight of assessment
Writing exam	50%
Practical exam	25%
Oral exam	25%
total	100%

8- List of references

8.1. Notes and books Student handbook of physiology prepared by the department staffs.

8.2. Essential books: Veterinary endocrinology and reproduction. Mauricio,H; Pineda Michael,P and Doole,Y, 2003. Blackwell Publishing Iowa State Press (5th edition).

8.3. Recommended texts* Experiments in Physiology 6th Edition. Gerard P. Tharp 1993.

* Animal physiology. ITTA Sambasiviah, A.P. Kamalakara RAO and S. Augustine Chellappa 1987.

8.4. Journals, Websitesetc

Journals: * Egyptian J. of Basic and Applied Physiology. Cairo, Egypt

Websites:

WWW.Science direct

WWW. Pubmed.com

[WWW.Scholar](http://WWW.Scholar.google.com) google.com

[WWW.welly](http://WWW.wellyinterscience) interscience

Course Coordinators

Head of Department



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Course specification

	Topics	week	Intended learning outcomes of course (ILOs)			
	Histology of lab animal		K and U (a)	I.S (b)	P. P.S. (c)	G.T.S (d)
1	General structure of digestive system	1 st w- 9 th w	1,2,3	1,2,3	1,2,3,4	1,2,3,4,5
2	- General structure of respiratory system	10 th w- 18 th w	1,2,3	1,3	1,2,3,4	1,2,3,4,5
3	- General structure of urogenital system	19 th w- 27 th w	1,2	1,2,3	1,2,3	1,2,3,4,5
4	- General structure of lymphatic system	28 th w- 36 th w	1,2	1,2,3	1,2,3	1,2,3,4,5



Beni Suef University
Faculty of Veterinary Medicine



Course specification of postgraduate

Course Code:	M-24
Course title :	Poultry physiology
Program title:	Master Degree of Veterinary Medical Sciences (Animal physiology
Contact hours/ week	2hr(practical)-2hrs(lecture)4 hrs(total)
Approval Date	

2-Professional information

Overall aims of course:

This course aims to:

- 1- ensure that students reserve a comprehensive theoretical base in poultry physiology.
- 2- provide students with knowledge, skills and confidence to enable them to pursue a career in the field of birds and rabbits production

3- Intended learning outcomes of course (ILOs)

a- Knowledge and understanding:

By the end of this course the student should be able to:

- a.1- understand the mechanism of different body systems of birds.
- a.2- explain the structural and functional relationship of endocrine glands.
- a.3- describe the components of male and female reproductive system.
- a.4- understand the ovulatory and ovipository cycles.

b-Intellectual skills

By the end of this course the student should be able to:

- b.1- differentiate between body systems in mammals and birds.
- b.2- deal with ethical and professional issues pertaining to animal research.

C- Professional and practical skills

By the end of this course the student should be able to:

- c.1- examine blood samples of birds.
- c.2- make use of statistical techniques.
- c.3- localize endocrine glands of birds.
- c.4- examine reproductive system of birds

d- General and transferable skills

By the end of studying the course, the student should be able to:

- d.1- summarize research findings in oral form in seminars and workshops.
- d.2- communicate effectively with supervisors.
- d.3- demonstrate information retrieval and library skills.



4-Topics and contents

Course	Topic	No. of hours	Lectures	Practical
(Lec. h./week, Pract h./week) Lec. 2hrs/wk, prac 2hrs/wk	Hematology & lymphatic tissue	18hrs	9hrs	9hrs
	Digestive & excretory systems	18hrs	9hrs	9hrs
	Respiratory system	18hrs	9hrs	9hrs
	Endocrine glands	18hrs	9hrs	9hrs
	Female reproduction	18hrs	9hrs	9hrs
	Factors affecting egg production	18hrs	9hrs	9hrs
	Male reproduction	18hrs	9hrs	9hrs
	Control of reproduction	18hrs	9hrs	9hrs
	Total	144	72hrs	72hrs

5-Teaching and learning methods

- 5.1- Lectures (brain storm, discussion) using board, data shows
- 5.2- Self learning by preparing essays and presentations (computer researches and library)
- 5.3- Practical (models, samples of stained tissues and data show).

7-Student assessment

7.1. Assessments methods:

Method	Matrix alignment of the measured ILOs/ Assessments methods			
	K&U	LS	P&P.S	G.S
Final Exam	a1- a2- a3- a4	b1- b2	c1- c2- c3- c4	d1-d2-d3
Practical Exam	a1- a2- a3-a4	b1- b2	c1- c2- c3- c4	d1-d2-d3
Oral Exam	a1- a2- a3-a4	b1- b2	c1- c2- c3- c4	d1-d2-d3



7.2. Assessment schedules

Method	Week(s)
Writing exam	last weak
Practical exam	last weak
Oral exam	last weak

7.3. Weight of assessments

Assessment	Weight of assessment
Writing exam	50%
Practical exam	25%
Oral exam	25%
total	100%

8- List of references

8.1. Notes and books

Student handbook of physiology prepared by the department staffs.

8.2. Essential books: Veterinary endocrinology and reproduction. Mauricio,H; Pineda Michael,P and Doole,Y, 2003. Blackwell Publishing Iowa State Press (5th edition).

8.3. Recommended texts* Experiments in Physiology 6th Edition. Gerard P. Tharp 1993.

* Animal physiology. ITTA Sambasiviah, A.P. Kamalakara RAO and S. Augustine Chellappa 1987.

8.4. Journals, Websitesetc

Journals: * Egyptian J. of Basic and Applied Physiology. Cairo, Egypt

Websites:

WWW.Science direct

WWW. Pubmed.com

[WWW.Scholar](http://WWW.Scholar.google.com) google.com

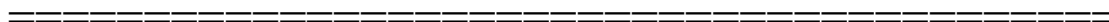
[WWW.welly](http://WWW.wellyinterscience.com) interscience

Course Coordinators

Head of Department



Beni-Suef University
Faculty of Veterinary Medicine





Beni Suef University
Faculty of Veterinary Medicine

Course specification

	Topics	week	Intended learning outcomes of course (ILOs)			
	Histology of lab animal		K and U (a)	I.S (b)	P. P.S. (c)	G.T.S (d)
1	General structure of digestive system	1 st w- 9 th w	1,2,3	1,2,3	1,2,3,4	1,2,3,4,5
2	- General structure of respiratory system	10 th w- 18 th w	1,2,3	1,3	1,2,3,4	1,2,3,4,5
3	- General structure of urogenital system	19 th w- 27 th w	1,2	1,2,3	1,2,3	1,2,3,4,5
4	- General structure of lymphatic system	28 th w- 36 th w	1,2	1,2,3	1,2,3	1,2,3,4,5



Beni Suef University
Faculty of Veterinary Medicine



Beni-Suef University
Faculty of Veterinary Medicine

Course specification of postgraduate

1-Basic information

Course Code:	M-25
Course title :	Fish physiology
Program title:	Master Degree of Veterinary Medical Sciences (Animal physiology).
Contact hours/ week	2hr(practical)- 1 hrs(lecture) 3 hrs(total)
Approval Date	

2-Professional information

Overall aims of course:

This course aims to:

- a-** ensure that students reserve a comprehensive theoretical base in fish physiology.
- b-** provide students with knowledge, skills and confidence to enable them to pursue a career in the field of fish farming.

3- Intended learning outcomes of course (ILOs)

a- Knowledge and understanding:

By the end of this course the student should be able to:

- a1-** understand the basic concepts, terminology and taxonomy of fish physiology.
- a2-** explain the fish functions in relation to their living in water.
- a3-** clarify how can fish operate in three dimensions with different problems of orientation, location and osmoregulation.
- a4-** explore the variety of fish strategies for reproduction.
- a5-** recognize the interactions among organs and systems in fish.

b-Intellectual skills

By the end of this course the student should be able to:

- b1-** compare the physiological processes between fish and land vertebrates.
- b2-** interpret the appropriate behavior and coordination with environmental factors.
- b3-** recognize the different developing adaptations in fish.

C- Professional and practical skills

By the end of this course the student should be able to:

- c1-** collect, prepare and examine blood samples.
- c2-** collect, prepare and examine semen samples.
- c3-** plan and execute a research project in the field of fish physiology.



Course specification of postgraduate

d- General and transferable skills

By the end of studying the course, the student should be able to:

- d1-** summarize research findings in oral form in seminars and workshops.
- d2-** communicate effectively with supervisors.
- d3-** demonstrate information retrieval and library skills.

4-Topics and contents

Course	Topic	No. of hours	Lectures	Practical
(Lec. h./week, Pract h./week) Lec, 1hrs/wk, prac 2hrs/wk	Taxonomy of fish	12hrs	6hrs	6hrs
	General morphology of fish	12hrs	6hrs	6hrs
	Locomotor system of fish	12hrs	6hrs	6hrs
	Digestive system of fish	12hrs	6hrs	6hrs
	Blood and circulation	12hrs	6hrs	6hrs
	Respiratory system	12hrs	6hrs	6hrs
	Excretory system of fish	12hrs	6hrs	6hrs
	Buoyancy	12hrs	6hrs	6hrs
	Endocrine glands of fish	12hrs	6hrs	6hrs
	Reproduction	12hrs	6hrs	6hrs
	Osmoregulation	12hrs	6hrs	6hrs
	Sense organs	12hrs	6hrs	6hrs
	Total	144hrs	72hrs	72hrs

5-Teaching and learning methods

- 5.1- Lectures (brain storm, discussion) using board, data shows
- 5.2- Self learning by preparing essays and presentations (computer researches and library)
- 5.3- Practical (models, samples of stained tissues and data show).

7-Student assessment

7.1. Assessments methods:

Method	Matrix alignment of the measured ILOs/ Assessments methods			
	K&U	I.S	P&P.S	G.S
Final Exam	a1- a2- a3- a4-a5	b1- b2- b3-	c1- c2- c3-	d1-d2-d3-
Practical Exam	a1- a2- a3- a4-a5	b1- b2- b3-	c1- c2- c3-	d1-d2-d3-
Oral Exam	a1- a2- a3-- a4-a5	b1- b2- b3-	c1- c2- c3-	d1-d2-d3-



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Course specification of postgraduate

7.2. Assessment schedules

Method	Week(s)
Writing exam	LAST WEAK
Practical exam	LAST WEAK
Oral exam	LAST WEAK

7.3. Weight of assessments

Assessment	Weight of assessment
Writing exam	50%
Practical exam	25%
Oral exam	25%
total	100%

8- List of references

8.1. Notes and books

Student handbook of physiology prepared by the department staffs.

8.2. Essential books: * Introduction to fish physiology. Smith,LS, 1982. TFH Publication, Inc. USA.

* Anatomy and physiology of fishes. Kumar,S and Tembhre,M, 1997. Vikas publishing house, PVT Ltd., New Delhi.

* The physiology of fishes. David H. Evans, 1998. CRC Press, New York.

8.3. Recommended texts* Experiments in Physiology 6th Edition. Gerard P. Tharp 1993.

* Fish physiology. Nancy M. Sherwood and Choy L. Hew, 1994. Academic press, San Diego.

* Physiology 3rd edition. John Buuock, Joseph Boyle III and Michael B. Wang, 1995. National Medical Series for Independent Studies. Middle East Edition. Mass Publishing CO. 9Al Tahrir St., Dokki, Giza, Egypt.

8.4. Journals, Websitesetc

Journals: * Egyptian J. of Basic and Applied Physiology. Cairo, Egypt

Websites:

WWW.Science direct

WWW. Pubmed.com

[WWW.Scholar](http://WWW.Scholar.google.com) google.com

[WWW.welly](http://WWW.wellyinterscience) interscience

Course Coordinators

Head of Department



Beni-Suef University
Faculty of Veterinary Medicine

Course specification of postgraduate



Beni Suef University
Faculty of Veterinary Medicine

Course specification

	Topics	week	Intended learning outcomes of course (ILOs)			
	Histology of lab animal		K and U (a)	I.S (b)	P. P.S. (c)	G.T.S (d)
1	General structure of digestive system	1 st w- 9 th w	1,2,3	1,2,3	1,2,3,4	1,2,3,4,5
2	- General structure of respiratory system	10 th w- 18 th w	1,2,3	1,3	1,2,3,4	1,2,3,4,5
3	- General structure of urogenital system	19 th w- 27 th w	1,2	1,2,3	1,2,3	1,2,3,4,5
4	- General structure of lymphatic system	28 th w- 36 th w	1,2	1,2,3	1,2,3	1,2,3,4,5



Beni Suef University
Faculty of Veterinary Medicine



Course specification of postgraduate

1-Basic information

Course Code:	M-26
Course title :	Physiology of muscle and nerve
Program title:	Master Degree of Veterinary Medical Sciences (Animal physiology).
Contact hours/ week	2hr(practical)-2hrs(lecture)4 hrs(total)
Approval Date	

2-Professional information

Overall aims of course:

This course aims to:

- a- ensure that students reserve a comprehensive theoretical base in veterinary physiology.
- b- provide students with knowledge, skills and confidence to enable them to pursue a career in the field of physiology of ruminants.

3- Intended learning outcomes of course (ILOs)

a- Knowledge and understanding:

By the end of this course the student should be able to:

- a.1- understand the origin of membrane potentials and Principle of electrical neutrality.
- a.2- explain the nerve action potential & its propagation.
- a.3- understand the mechanism of muscle contraction.
- a.4- explain the changes occurring during muscle contraction.
- a.5- understand the postmortem stiffness.

b-Intellectual skills

By the end of this course the student should be able to:

- b.1- compare between skeletal, smooth and cardiac muscles.
- b.2- differentiate between rigor mortis, cadaveric spasm, heat and freezing stiffness.
- b.3- deal with ethical and professional issues pertaining to animal research.

C- Professional and practical skills

By the end of this course the student should be able to:

- c.1- dissect frog muscle and nerve preparation.
- c.2- examine response of the muscle to heat & cold, fatigue and tetanus.
- c.3- make use of statistical techniques.

d- General and transferable skills



Course specification of postgraduate

By the end of studying the course, the student should be able to:

- d.1-** summarize research findings in oral form in seminars and workshops.
- d.2-** communicate effectively with supervisors.
- d.3-** demonstrate information retrieval and library skills.

4-Topics and contents

Course	Topic	No. of hours	Lectures	Practical
(Lec. h./week, Pract h./week) Lec, 2hrs/wk, prac 2hrs/wk	Origin of membrane potentials	16hrs	8hrs	8hrs
	Principle of electrical neutrality	16hrs	8hrs	8hrs
	Nerve action potential & its propagation	16hrs	8hrs	8hrs
	Structure and properties of muscle fibers	16hrs	8hrs	8hrs
	Neuromuscular junction & innervation ratio	16hrs	8hrs	8hrs
	Mechanism of muscle contraction	16hrs	8hrs	8hrs
	Role of calcium in muscle contraction	16hrs	8hrs	8hrs
	Changes occurring during muscle contraction	16hrs	8hrs	8hrs
	Factors affecting muscle contraction	16hrs	8hrs	8hrs
	Total	144hrs	72hrs	72hrs

5-Teaching and learning methods

- 5.1- Lectures (brain storm, discussion) using board, data shows
- 5.2- Self learning by preparing essays and presentations (computer researches and library)
- 5.3- Practical (models, samples of stained tissues and data show).

7-Student assessment

7.1. Assessments methods:

Method	Matrix alignment of the measured ILOs/ Assessments methods			
	K&U	I.S	P&P.S	G.S
Final Exam	a1- a2- a3-a4-a5	b1- b2- b3	c1- c2- c3-	d1-d2-d3
Practical Exam	a1- a2- a3-a4-a5	b1- b2- b3	c1- c2- c3	d1-d2-d3
Oral Exam	a1- a2- a3--a4-a5	b1- b2- b3	c1- c2- c3	d1-d2-d3

7.2. Assessment schedules

Method	Week(s)
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Beni-Suef University
Faculty of Veterinary Medicine

Course specification of postgraduate

Writing exam	last weak
Practical exam	last weak
Oral exam	last weak

7.3. Weight of assessments

Assessment	Weight of assessment
Writing exam	50%
Practical exam	25%
Oral exam	25%
total	100%

8- List of references

8.1. Notes and books

Student handbook of physiology prepared by the department staffs.

8.2. Essential books:

- * Textbook of Medical Physiology. Guyton & Hall 9th Edition. 1996. W.B. Saunders Co. (Harcourt Brace I.E.) Philadelphia, USA.
- * Physiology of Domestic Animals. William O. Reece 1991.
- * Animal physiology. ITTA Sambasiviah, A.P. Kamalakara RAO and S. Augustine Chellappa 1987.

8.3. Recommended texts* Experiments in Physiology 6th Edition. Gerard P. Tharp 1993.

- * Physiology 3rd edition. John Buuock, Joseph Boyle III and Michael B. Wang, 1995. National Medical Series for Independent Studies. Middle East Edition. Mass Publishing CO. 9Al Tahrir St., Dokki, Giza, Egypt.

8.4. Journals, Websitesetc

Journals: * Egyptian J. of Basic and Applied Physiology. Cairo, Egypt

Websites:

WWW.Science direct

WWW. Pubmed.com

[WWW.Scholar](http://WWW.Scholar.google.com) google.com

[WWW.welly](http://WWW.wellyinterscience.com) interscience

Course Coordinators

Head of Department



Beni-Suef University
Faculty of Veterinary Medicine

Course specification of postgraduate



Beni Suef University
Faculty of Veterinary Medicine

Course specification

	Topics	week	Intended learning outcomes of course (ILOs)			
	Histology of lab animal		K and U (a)	I.S (b)	P. P.S. (c)	G.T.S (d)
1	General structure of digestive system	1 st w- 9 th w	1,2,3	1,2,3	1,2,3,4	1,2,3,4,5
2	- General structure of respiratory system	10 th w- 18 th w	1,2,3	1,3	1,2,3,4	1,2,3,4,5
3	- General structure of urogenital system	19 th w- 27 th w	1,2	1,2,3	1,2,3	1,2,3,4,5
4	- General structure of lymphatic system	28 th w- 36 th w	1,2	1,2,3	1,2,3	1,2,3,4,5



Beni Suef University
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Course specification of postgraduate

1-Basic information

Course Code:	M-27
Course title :	Physiology of ruminants
Program title:	Master Degree of Veterinary Medical Sciences (Animal physiology
Contact hours/ week	2hr(practical)-2hrs(lecture)4 hrs(total)
Approval Date	

2-Professional information

Overall aims of course:

This course aims to:

- a- ensure that students reserve a comprehensive theoretical base in veterinary physiology.
- b- provide students with knowledge, skills and confidence to enable them to pursue a career in the field of physiology of ruminants.

3- Intended learning outcomes of course (ILOs)

a- Knowledge and understanding:

By the end of this course the student should be able to:

- a.1-** understand the process of microbial digestion and fate of its end products.
- a.2-** explain rumination cycle.
- a.3-** identify the movements of different parts of GIT.

b-Intellectual skills

By the end of this course the student should be able to:

- b.1-** compare between ruminal, reticular, omasal and abomasal motilities.
- b.2-** deal with ethical and professional issues pertaining to animal research.

C- Professional and practical skills

By the end of this course the student should be able to:

- c.1-** collect ruminal juice..
- c.2-** examine microflora and microfuana.
- c.3-** make use of statistical techniques.

d- General and transferable skills

By the end of studying the course, the student should be able to:

- d.1-** summarize research findings in oral form in seminars and workshops.
- d.2-** communicate effectively with supervisors.
- d.3-** demonstrate information retrieval and library skills.



Course specification of postgraduate

4-Topics and contents

Course	Topic	No. of hours	Lectures	Practical
(Lec. h./week, Pract h./week)	Rumination cycle	24hrs	12hrs	12hrs
	Movements of GIT	24hrs	12hrs	12hrs
	Digestion of cellulose	24hrs	12hrs	12hrs
	Digestion of other food stuffs	24hrs	12hrs	12hrs
	End products and fate of cellulose digestion	24hrs	12hrs	12hrs
	Control of cellulose digestion	24hrs	12hrs	12hrs
	Total	144hrs	72hrs	72hrs

5-Teaching and learning methods

- 5.1- Lectures (brain storm, discussion) using board, data shows
- 5.2- Self learning by preparing essays and presentations (computer researches and library)
- 5.3- Practical (models, samples of stained tissues and data show).

7-Student assessment

7.1. Assessments methods:

Method	Matrix alignment of the measured ILOs/ Assessments methods			
	K&U	I.S	P&P.S	G.S
Final Exam	a1- a2- a3	b1- b2	c1- c2- c3	d1-d2-d3
Practical Exam	a1- a2- a3	b1- b2	c1- c2- c3	d1-d2-d3
Oral Exam	a1- a2- a3	b1- b2	c1- c2- c3	d1-d2-d3-

7.2. Assessment schedules

Method	Week(s)
Writing exam	last weak
Practical exam	last weak
Oral exam	last weak



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Course specification of postgraduate

7.3. Weight of assessments

Assessment	Weight of assessment
Writing exam	50%
Practical exam	25%
Oral exam	25%
total	100%

8- List of references

8.1. Notes and books Student handbook of physiology prepared by the department staffs.

8.2. Essential books: * Ruminant Physiology. F.B. Cornje 2000.

* Animal physiology. ITTA Sambasiviah, A.P. Kamalakara RAO and S. Augustine Chellappa 1987.

* Physiology of Domestic Animals. William O. Reece 1991.

* Principles of Anatomy and Physiology. 4th edition. Gerard J. Tortora –Nicholas P. Anagnostakos 1975.

8.3. Recommended texts* Experiments in Physiology 6th Edition. Gerard P. Tharp 1993.

* Textbook of Medical Physiology. Guyton & Hall 9th Edition. 1996. W.B. Saunders Co. (Harcourt Brace I.E.) Philadelphia, USA.

* Physiology 3rd edition. John Buuock, Joseph Boyle III and Michael B. Wang, 1995.
National Medical Series for Independent Studies. Middle East Edition. Mass Publishing CO. 9Al Tahrir St., Dokki, Giza, Egypt

8.4. Journals, Websitesetc

Journals: * Egyptian J. of Basic and Applied Physiology. Cairo, Egypt

Websites:

WWW.Science direct

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[WWW.Scholar](http://WWW.Scholar.google.com) google.com

[WWW.welly](http://WWW.wellyinterscience) interscience

Course Coordinators

Head of Department



Beni-Suef University
Faculty of Veterinary Medicine

Course specification of postgraduate



Beni Suef University
Faculty of Veterinary Medicine

Course specification

	Topics	week	Intended learning outcomes of course (ILOs)			
	Histology of lab animal		K and U (a)	I.S (b)	P. P.S. (c)	G.T.S (d)
1	General structure of digestive system	1 st w- 9 th w	1,2,3	1,2,3	1,2,3,4	1,2,3,4,5
2	- General structure of respiratory system	10 th w- 18 th w	1,2,3	1,3	1,2,3,4	1,2,3,4,5
3	- General structure of urogenital system	19 th w- 27 th w	1,2	1,2,3	1,2,3	1,2,3,4,5
4	- General structure of lymphatic system	28 th w- 36 th w	1,2	1,2,3	1,2,3	1,2,3,4,5



Beni Suef University
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Course specification of postgraduate

1-Basic information

Course Code:	M-28
Course title :	Physiology of environment and adaptation
Program title:	Master Degree of Veterinary Medical Sciences (Animal physiology).
Contact hours/ week	2hr(practical)-2hrs(lecture)4 hrs(total)
Approval Date	

2-Professional information

Overall aims of course:

This course aims to:

- a-** provide students with knowledge, skills and confidence that fit them for clinical, scientific, ethical and client-related problems met with in their career.
- b-** foster an enthusiastic interest in the physiology of environment, adaptation and cell that are primarily relevant to veterinary research.

3- Intended learning outcomes of course (ILOs)

a- Knowledge and understanding:

By the end of this course the student should be able to:

- a.1-** describe the chief structural and functional features of the cell components.
- a.2-** discuss the nature and importance of the genetic code.
- a.3-** summarize the process of protein biosynthesis.
- a.4-** describe the stage of cell life cycle and its regulation.
- a.5-** recognize that animals with anatomical and physiological specializations often contribute much to our understanding of general principles.

b-Intellectual skills

By the end of this course the student should be able to:

- b.1-** design a comparative physiology as a description of functions peculiar to different animal species.
- b.2-** explore anatomical and physiological specializations for adaptations in different environments.
- b.3-** interpret the relationship between cell division and cancer.

C- Professional and practical skills

By the end of this course the student should be able to:

- c.1-** differentiate between body systems in different animals.
- c.2-** discover that many problems can be understood, once a few fundamental principles are familiar.



Course specification of postgraduate

d- General and transferable skills

By the end of studying the course, the student should be able to:

d.1- summarize research findings in oral form in seminars and workshops.

d.2- communicate effectively with supervisors.

d.3- demonstrate information retrieval and library skills.

4-Topics and contents

Course	Topic	No. of hours	Lectures	Practical
(Lec. h./week, Pract h./week) Lec, 2hrs/wk, prac 2hrs/wk	Composition of the environment	24hrs	12hrs	12hrs
	Geological activity	24hrs	12hrs	12hrs
	Atmosphere, climate and weather	24hrs	12hrs	12hrs
	Environmental pollution	24hrs	12hrs	12hrs
	Adaptations in different environments	24hrs	12hrs	12hrs
	Homeostasis	24hrs	12hrs	12hrs
	Total	144hrs	72hrs	72hrs

5-Teaching and learning methods

5.1- Lectures (brain storm, discussion) using board, data shows

5.2- Self learning by preparing essays and presentations (computer researches and library)

5.3- Practical (models, samples of stained tissues and data show).

7-Student assessment

7.1. Assessments methods:

Method	Matrix alignment of the measured ILOs/ Assessments methods			
	K&U	I.S	P&P.S	G.S
Final Exam	a1- a2- a3- a4-a5	b1- b2- b3	c1- c2	d1-d2-d3
Practical Exam	a1- a2- a3- a4-a5	b1- b2- b3	c1- c2	d1-d2-d3
Oral Exam	a1- a2- a3-- a4-a5	b1- b2- b3	c1- c2	d1-d2-d3-

7.2. Assessment schedules

Method	Week(s)
Writing exam	last week
Practical exam	last week



Beni-Suef University
Faculty of Veterinary Medicine

Course specification of postgraduate

Oral exam	last weak
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7.3. Weight of assessments

Assessment	Weight of assessment
Writing exam	50%
Practical exam	25%
Oral exam	25%
total	100%

8- List of references

8.1. Notes and books Student handbook of physiology prepared by the department staffs

8.2. Essential books: * Animal physiology: Adaptation and environment. Knut Schmidt-Nielsen, 1990 (5th ed.) Cambridge University Press (low price edition).

* Physiological ecology of animals: An evolutionary approach. Sibly, RM and Calow, B., 1986. Black well scientific publications.

* Environmental physiology of animals. Patwill Mer; Graham Stone and Ian Johnston, 2005. Black well scientific publications (2nd edition).

8.3. Recommended texts* Experiments in Physiology 6th Edition. Gerard P. Tharp 1993.

* Textbook of Medical Physiology. Guyton & Hall 9th Edition. 1996. W.B. Saunders Co. (Harcourt Brace I.E.) Philadelphia, USA.

* Physiology 3rd edition. John Buuock, Joseph Boyle III and Michael B. Wang, 1995. National Medical Series for Independent Studies. Middle East Edition. Mass Publishing CO. 9Al Tahrir St., Dokki, Giza, Egypt.

8.4. Journals, Websitesetc

Journals: * Egyptian J. of Basic and Applied Physiology. Cairo, Egypt

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[WWW.welly](http://WWW.wellyinterscience.com) interscience

Course Coordinators

Head of Department



Beni-Suef University
Faculty of Veterinary Medicine

Course specification of postgraduate



Beni Suef University
Faculty of Veterinary Medicine

Course specification

	Topics	week	Intended learning outcomes of course (ILOs)			
	Histology of lab animal		K and U (a)	I.S (b)	P. P.S. (c)	G.T.S (d)
1	General structure of digestive system	1 st w- 9 th w	1,2,3	1,2,3	1,2,3,4	1,2,3,4,5
2	- General structure of respiratory system	10 th w- 18 th w	1,2,3	1,3	1,2,3,4	1,2,3,4,5
3	- General structure of urogenital system	19 th w- 27 th w	1,2	1,2,3	1,2,3	1,2,3,4,5
4	- General structure of lymphatic system	28 th w- 36 th w	1,2	1,2,3	1,2,3	1,2,3,4,5



Beni Suef University
Faculty of Veterinary Medicine



Course specification of postgraduate

1-Basic information

Course Code:	M-29
Course title :	Physiology of blood.
Program title:	Master Degree of Veterinary Medical Sciences (Animal physiology
Contact hours/ week	2hr(practical)-2hrs(lecture)4 hrs(total)
Approval Date	

2-Professional information

Overall aims of course:

This course aims to:

- a-** ensure that students reserve a comprehensive theoretical base in blood and blood forming elements.
- b-** provide students with knowledge, skills, experiences and confidence to qualify for employment in veterinary laboratories.
- c-** provide students with knowledge and skills in interpretation of their data,

3- Intended learning outcomes of course (ILOs)

a- Knowledge and understanding:

By the end of this course the student should be able to:

- a.1-** understand the general and particular functions of blood and blood forming elements as well as their structure and regeneration.
- a.2-** evaluate the ability of the body to fight infection as well as the progress of certain disease states.
- a.3-** describe the disturbances related to blood elements and blood forming tissues.

b-Intellectual skills

By the end of this course the student should be able to:

- b.1-** deal with ethical and professional issues of small and large animals.
- b.2-** evaluate their own research data precisely and develop new approaches to solve their research questions.

C- Professional and practical skills

By the end of this course the student should be able to:

- c.1-** perform essential laboratory skills concerning advanced techniques associated with hematological research.
- c.2-** collect and examine blood samples.
- c.3-** select and perform relevant statistical techniques concerning their own research.



Course specification of postgraduate

d- General and transferable skills

By the end of studying the course, the student should be able to:

d.1- summarize and present research findings in oral form in seminars and workshops.

d.2- demonstrate team-working ability by the successful achievement of collaborative learn assignment.

4-Topics and contents

Course	Topic	No. of hours	Lectures	Practical
(Lec. h./week, Pract h./week) Lec, 2hrs/wk, prac 2hrs/wk	Structure and functions of blood	18hrs	9hrs	9hrs
	Functions of blood forming elements	18hrs	9hrs	9hrs
	Plasma proteins & their functions	18hrs	9hrs	9hrs
	Theories of blood coagulation process	18hrs	9hrs	9hrs
	Response of the body against infection	18hrs	9hrs	9hrs
	Disturbances in blood cells	18hrs	9hrs	9hrs
	Blood grouping	18hrs	9hrs	9hrs
	Hematology & lymphatic tissue	18hrs	9hrs	9hrs
	Total	144hrs	72hrs	72hrs

5-Teaching and learning methods

- 5.1- Lectures (brain storm, discussion) using board, data shows
- 5.2- Self learning by preparing essays and presentations (computer researches and library)
- 5.3- Practical (models, samples of stained tissues and data show).

7-Student assessment

7.1. Assessments methods:

Method	Matrix alignment of the measured ILOs/ Assessments methods			
	K&U	LS	P&P.S	G.S
Final Exam	a1- a2- a3	b1- b2	c1- c2- c3	d1-d2
Practical Exam	a1- a2- a3	b1- b2	c1- c2- c3	d1-d2
Oral Exam	a1- a2- a3	b1- b2	c1- c2- c3	d1-d2

7.2. Assessment schedules



Beni-Suef University
Faculty of Veterinary Medicine

Course specification of postgraduate

Method	Week(s)
Writing exam	last weak
Practical exam	last weak
Oral exam	last weak

7.3. Weight of assessments

Assessment	Weight of assessment
Writing exam	50%
Practical exam	25%
Oral exam	25%
total	100%

8- List of references

8.1. Notes and books: Student handbook of physiology prepared by the department staffs.

8.2. Essential books: * Shalm' Veterinary Haematology. 4th edition. Nemi C. Jain, 1986. Lea & Febiger, Philadelphia, USA.

* Animal physiology. ITTA Sambasiviah, A.P. Kamalakara RAO and S. Augustine Chellappa 1987.

* Physiology of Domestic Animals. William O. Reece 1991.

* Principles of Anatomy and Physiology. 4th edition. Gerard J. Tortora –Nicholas P. Anagnostakos 1975.

8.3. Recommended texts* Experiments in Physiology. 6th Edition. Gerard P. Tharp 1993.

* Textbook of Medical Physiology. Guyton & Hall 9th Edition. 1996. W.B. Saunders Co. (Harcourt Brace I.E.) Philadelphia, USA.

* Physiology 3rd edition. John Buuock, Joseph Boyle III and Michael B. Wang, 1995. National Medical Series for Independent Studies. Middle East Edition. Mass Publishing CO. 9Al Tahrir St., Dokki, Giza, Egypt.

8.4. Journals, Websitesetc

Journals: * Egyptian J. of Basic and Applied Physiology. Cairo, Egypt

Websites:

WWW.Science direct

WWW. Pubmed.com

[WWW.Scholar](http://WWW.Scholar.google.com) google.com

[WWW.welly](http://WWW.wellyinterscience.com) interscience

Course Coordinators

Head of Department



Beni-Suef University
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Course specification of postgraduate



Beni Suef University
Faculty of Veterinary Medicine

Course specification

	Topics	week	Intended learning outcomes of course (ILOs)			
	Histology of lab animal		K and U (a)	I.S (b)	P. P.S. (c)	G.T.S (d)
1	General structure of digestive system	1 st w- 9 th w	1,2,3	1,2,3	1,2,3,4	1,2,3,4,5
2	- General structure of respiratory system	10 th w- 18 th w	1,2,3	1,3	1,2,3,4	1,2,3,4,5
3	- General structure of urogenital system	19 th w- 27 th w	1,2	1,2,3	1,2,3	1,2,3,4,5
4	- General structure of lymphatic system	28 th w- 36 th w	1,2	1,2,3	1,2,3	1,2,3,4,5



Beni Suef University
Faculty of Veterinary Medicine



Course specification of postgraduate

1-Basic information

Course Code:	M-30
Course title :	Physiology of digestion, metabolism and energy
Program title:	Master Degree of Veterinary Medical Sciences (Animal physiology
Contact hours/ week	2hr(practical)-2hrs(lecture)4 hrs(total)
Approval Date	

2-Professional information

Overall aims of course:

This course aims to:

- a-** ensure that students reserve a comprehensive theoretical base in veterinary physiology.
- b-** provide students with knowledge, skills and confidence to enable them to pursue a career in the field of nutrition of farm animals.

3- Intended learning outcomes of course (ILOs)

a- Knowledge and understanding:

By the end of this course the student should be able to:

- a.1-** understand the process of digestion and absorption of food stuffs.
- a.2-** identify the movements of different parts of GIT.
- a.3-** discuss neural and hormonal control of digestion and absorption.
- a.4-** identify the different types of energy and metabolic balance.
- a.5-** discuss the basal metabolic rate and methods of its measurement.
- a.6-** discuss the factors affecting basal metabolic rate.

b-Intellectual skills

By the end of this course the student should be able to:

- b.1-** compare between digestion in simple and compound stomach animals.
- b.2-** compare between absorption in herbivorous and carnivorous animals.
- b.3-** compare between direct and indirect calorimetry in measuring BMR.

C- Professional and practical skills

By the end of this course the student should be able to:

- c.1-** collect and examine samples of digestive juices.
- c.2-** use the Spirometer in measuring BMR.
- c.3-** make use of statistical techniques.

d- General and transferable skills

By the end of studying the course, the student should be able to:

- d.1-** summarize research findings in oral form in seminars and workshops.
- d.2-** communicate effectively with supervisors.
- d.3-** demonstrate information retrieval and library skill



Course specification of postgraduate

4-Topics and contents

Course	Topic	No. of hours	Lectures	Practical
(Lec. h./week, Pract h./week)	Chemical digestion	18hrs	9hrs	9hrs
	Mechanical digestion	18hrs	9hrs	9hrs
	Control of digestion	18hrs	9hrs	9hrs
	Absorption	18hrs	9hrs	9hrs
	Types of energy	18hrs	9hrs	9hrs
	Metabolic balance	18hrs	9hrs	9hrs
	Basal metabolic rate	18hrs	9hrs	9hrs
	Digestive & excretory systems	18hrs	9hrs	9hrs
	Total	144hrs	72hrs	72hrs

5-Teaching and learning methods

- 5.1- Lectures (brain storm, discussion) using board, data shows
- 5.2- Self learning by preparing essays and presentations (computer researches and library)
- 5.3- Practical (models, samples of stained tissues and data show).

7-Student assessment

7.1. Assessments methods:

Method	Matrix alignment of the measured ILOs/ Assessments methods			
	K&U	I.S	P&P.S	G.S
Final Exam	a1- a2- a3-a4-a5-a6	b1- b2- b3	c1- c2- c3	d1-d2-d3
Practical Exam	a1- a2- a3-a4-a5-a6	b1- b2- b3	c1- c2- c3	d1-d2-d3
Oral Exam	a1- a2- a3- a4-a5-a6	b1- b2- b3	c1- c2- c3	d1-d2-d3

7.2. Assessment schedules

Method	Week(s)
Writing exam	last weak
Practical exam	last weak
Oral exam	last weak



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Course specification of postgraduate

7.3. Weight of assessments

Assessment	Weight of assessment
Writing exam	50%
Practical exam	25%
Oral exam	25%
total	100%

8- List of references

8.1. Notes and books: Student handbook of physiology prepared by the department staffs.

8.2. Essential books: * Gastrointestinal Physiology. 2nd edition. Leonard R. Johnson. Toronto London 1981.

* Ruminant Physiology. F.B. Cornje 2000.

* Animal physiology. ITTA Sambasiviah, A.P. Kamalakara RAO and S. Augustine Chellappa 1987.

* Physiology of Domestic Animals. William O. Reece 1991.

8.3. Recommended texts* Experiments in Physiology 6th Edition. Gerard P. Tharp 1993.

* Textbook of Medical Physiology. Guyton & Hall 9th Edition. 1996. W.B. Saunders Co. (Harcourt Brace I.E.) Philadelphia, USA.

* Physiology 3rd edition. John Buuock, Joseph Boyle III and Michael B. Wang, 1995. National Medical Series for Independent Studies. Middle East Edition. Mass Publishing CO. 9Al Tahrir St., Dokki, Giza, Egypt.

8.4. Journals, Websitesetc

Journals: * Egyptian J. of Basic and Applied Physiology. Cairo, Egypt

Websites:

WWW.Science direct

WWW. Pubmed.com

[WWW.Scholar](http://WWW.Scholar.google.com) google.com

[WWW.welly](http://WWW.wellyinterscience.com) interscience

Course Coordinators

Head of Department



Beni-Suef University
Faculty of Veterinary Medicine

Course specification of postgraduate



Beni Suef University
Faculty of Veterinary Medicine

Course specification

	Topics	week	Intended learning outcomes of course (ILOs)			
	Histology of lab animal		K and U (a)	I.S (b)	P. P.S. (c)	G.T.S (d)
1	General structure of digestive system	1 st w- 9 th w	1,2,3	1,2,3	1,2,3,4	1,2,3,4,5
2	- General structure of respiratory system	10 th w- 18 th w	1,2,3	1,3	1,2,3,4	1,2,3,4,5
3	- General structure of urogenital system	19 th w- 27 th w	1,2	1,2,3	1,2,3	1,2,3,4,5
4	- General structure of lymphatic system	28 th w- 36 th w	1,2	1,2,3	1,2,3	1,2,3,4,5



Beni Suef University
Faculty of Veterinary Medicine



Course specification of postgraduate

1-Basic information

Course Code:	M-31
Course title :	Physiology of cell
Program title:	Master Degree of Veterinary Medical Sciences (Animal physiology).
Contact hours/ week	2hr(practical)-2hrs(lecture)4 hrs(total)
Approval Date	

2-Professional information

Overall aims of course:

This course aims to:

- a-** provide students with knowledge, skills and confidence that fit them for clinical, scientific, ethical and client-related problems met with in their career.
- b-** foster an enthusiastic interest in the physiology of environment, adaptation and cell that are primarily relevant to veterinary research.

3- Intended learning outcomes of course (ILOs)

a- Knowledge and understanding:

By the end of this course the student should be able to:

- a.1-** describe the chief structural and functional features of the cell components.
- a.2-** discuss the nature and importance of the genetic code.
- a.3-** summarize the process of protein biosynthesis.
- a.4-** describe the stage of cell life cycle and its regulation.
- a.5-** recognize that animals with anatomical and physiological specializations often contribute much to our understanding of general principles.

b-Intellectual skills

By the end of this course the student should be able to:

- b.1-** design a comparative physiology as a description of functions peculiar to different animal species.
- b.2-** explore anatomical and physiological specializations for adaptations in different environments.
- b.3-** interpret the relationship between cell division and cancer.

C- Professional and practical skills

By the end of this course the student should be able to:

- c.1-** differentiate between body systems in different animals.
- c.2-** discover that many problems can be understood, once a few fundamental principles are familiar.



Course specification of postgraduate

d- General and transferable skills

By the end of studying the course, the student should be able to:

- d.1-** summarize research findings in oral form in seminars and workshops.
- d.2-** communicate effectively with supervisors.
- d.3-** demonstrate information retrieval and library skills.

4-Topics and contents

Course	Topic	No. of hours	Lectures	Practical
(Lec. h./week, Pract h./week) Lec, 2hrs/wk, prac 2hrs/wk	Structure of the cell	24hrs	12hrs	12hrs
	Genetic code	24hrs	12hrs	12hrs
	Protein biosynthesis	24hrs	12hrs	12hrs
	Life cycle of the cell & its regulation	24hrs	12hrs	12hrs
	Adaptations in different environments	24hrs	12hrs	12hrs
	Comparative physiology	24hrs	12hrs	12hrs
	Total	144hrs	72hrs	72hrs

5-Teaching and learning methods

- 5.1- Lectures (brain storm, discussion) using board, data shows
- 5.2- Self learning by preparing essays and presentations (computer researches and library)
- 5.3- Practical (models, samples of stained tissues and data show).

7-Student assessment

7.1. Assessments methods:

Method	Matrix alignment of the measured ILOs/ Assessments methods			
	K&U	I.S	P&P.S	G.S
Final Exam	a1- a2- a3- a4-a5	b1- b2- b3	c1- c2	d1-d2-d3
Practical Exam	a1- a2- a3- a4-a5	b1- b2- b3	c1- c2	d1-d2-d3
Oral Exam	a1- a2- a3-- a4-a5	b1- b2- b3	c1- c2	d1-d2-d3-

7.2. Assessment schedules

Method	Week(s)
Writing exam	last weak
Practical exam	last weak
Oral exam	last weak



Beni-Suef University
Faculty of Veterinary Medicine

Course specification of postgraduate

7.3. Weight of assessments

Assessment	Weight of assessment
Writing exam	50%
Practical exam	25%
Oral exam	25%
total	100%

8- List of references

8.1. Notes and books Student handbook of physiology prepared by the department staffs

8.2. Essential books: * Animal physiology: Adaptation and environment. Knut Schmidt-Nielsen, 1990 (5th ed.) Cambridge University Press (low price edition).

* Physiological ecology of animals: An evolutionary approach. Sibly, RM and Calow, B., 1986. Black well scientific publications.

* Environmental physiology of animals. Patwill Mer; Graham Stone and Ian Johnston, 2005. Black well scientific publications (2nd edition).

8.3. Recommended texts* Experiments in Physiology 6th Edition. Gerard P. Tharp 1993.

* Textbook of Medical Physiology. Guyton & Hall 9th Edition. 1996. W.B. Saunders Co. (Harcourt Brace I.E.) Philadelphia, USA.

* Physiology 3rd edition. John Buuock, Joseph Boyle III and Michael B. Wang, 1995. National Medical Series for Independent Studies. Middle East Edition. Mass Publishing CO. 9Al Tahrir St., Dokki, Giza, Egypt.

8.4. Journals, Websitesetc

Journals: * Egyptian J. of Basic and Applied Physiology. Cairo, Egypt

Websites:

WWW.Science direct

WWW. Pubmed.com

[WWW.Scholar](http://WWW.Scholar.google.com) google.com

[WWW.welly](http://WWW.wellyinterscience.com) interscience

Course Coordinators

Head of Department



Beni-Suef University
Faculty of Veterinary Medicine

Course specification of postgraduate



Beni Suef University
Faculty of Veterinary Medicine

Course specification

	Topics	week	Intended learning outcomes of course (ILOs)			
	Histology of lab animal		K and U (a)	I.S (b)	P. P.S. (c)	G.T.S (d)
1	General structure of digestive system	1 st w- 9 th w	1,2,3	1,2,3	1,2,3,4	1,2,3,4,5
2	- General structure of respiratory system	10 th w- 18 th w	1,2,3	1,3	1,2,3,4	1,2,3,4,5
3	- General structure of urogenital system	19 th w- 27 th w	1,2	1,2,3	1,2,3	1,2,3,4,5
4	- General structure of lymphatic system	28 th w- 36 th w	1,2	1,2,3	1,2,3	1,2,3,4,5



Beni Suef University
Faculty of Veterinary Medicine



Course specification of postgraduate

1-Basic information

Course Code:	M-32
Course title :	Radioactive isotopes and its biological uses.
Program title:	Master Degree of Veterinary Medical Sciences (Animal physiology
Contact hours/ week	2hr(practical)-2hrs(lecture)4 hrs(total)
Approval Date	

2-Professional information

Overall aims of course:

This course aims to:

- a-** ensure that students reserve a comprehensive theoretical base on radioactive isotopes and their biological uses.
- b-** Provide students with knowledge, skills and confidence to deal with radioactive isotopes in medical laboratories.

3- Intended learning outcomes of course (ILOs)

a-Knowledge and understanding:

By the end of this course the student should be able to:

- a.1-** understand the basic concepts and terminology of radiation.
- a.2-** clarify the biological hazards of radiation on animal tissues.
- a.3-** explain the mode of action of radiation on animal tissues.
- a.4-** outline the medical uses of radiation.
- a.5-** recognize the regulations for the use of radiation.

b-Intellectual skills

By the end of this course the student should be able to:

- b.1-** compare between types of radiation and their effects.
- b.2-** explore the factors affecting deleterious effects of radiation on the tissues.
- b.3-** rank cells according to its sensitivity to radiation.

C- Professional and practical skills

By the end of this course the student should be able to:

- c.1-** analyze samples by RIA.
- c.2-** calculate the half life and effective half life of a radionuclide.
- c.3-** judge a sample for radio contamination.

d- General and transferable skills

By the end of studying the course, the student should be able to:

- d.1-** summarize research findings in oral form in seminars and workshops.
- d.2-** communicate effectively with supervisors.
- d.3-** demonstrate information retrieval and library skills.



Course specification of postgraduate

4-Topics and contents

Course	Topic	No. of hours	Lectures	Practical
(Lec. h./week, Pract h./week) Lec. 2hrs/wk, prac 2hrs/wk	Basic concepts and terminology of radiation	12hrs	6hrs	1hrs
	Biological hazards of radiation on animal tissues	12hrs	6hrs	1hrs
	Mode of action of radiation on animal tissues	12hrs	6hrs	1hrs
	Medical uses of radiation	12hrs	6hrs	1hrs
	Regulations for the use of radiation	12hrs	6hrs	1hrs
	Characteristics of antigen-antibody reactions	12hrs	6hrs	1hrs
	Measurements of precipitations	12hrs	6hrs	1hrs
	Principles of Agglutination & Agglut. inhibition	12hrs	6hrs	1hrs
	Principles of radioimmunoassay (RIA)	12hrs	6hrs	1hrs
	Principles of enzyme immunoassay (ELISA)	12hrs	6hrs	1hrs
	Principles of fluorescent immunoassay	12hrs	6hrs	1hrs
	Adaptations in different environments	12hrs	6hrs	6hrs
	Total	144hrs	72hrs	3hrs

5-Teaching and learning methods

- 5.1- Lectures (brain storm, discussion) using board, data shows
- 5.2- Self learning by preparing essays and presentations (computer researches and library)
- 5.3- Practical (models, samples of stained tissues and data show).

7-Student assessment

7.1. Assessments methods:

Method	Matrix alignment of the measured ILOs/ Assessments methods			
	K&U	I.S	P&P.S	G.S
Final Exam	a1- a2- a3- a4-a5	b1- b2- b3	c1- c2- c3	d1-d2-d3
Practical Exam	a1- a2- a3-a4-a5	b1- b2- b3	c1- c2- c3	d1-d2-d3
Oral Exam	a1- a2- a3- a4-a5	b1- b2- b3	c1- c2- c3	d1-d2-d3



Beni-Suef University
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Course specification of postgraduate

7.2. Assessment schedules

Method	Week(s)
Writing exam	last weak
Practical exam	last weak
Oral exam	last weak

7.3. Weight of assessments

Assessment	Weight of assessment
Writing exam	50%
Practical exam	25%
Oral exam	25%
total	100%

8- List of references

8.1. Notes and books Student handbook of physiology prepared by the department staffs

8.2. Essential books: * Handbook of Radiobiology. Kedar N. Prasad, 1995. CRC press, Boca Raton, New York.

* Radioimmunoassay. Rosalyn S. Yalow, 1983. Hutchinson Ross Publishing Co., Pennsylvania.

* Animal physiology. ITTA Sambasiviah, A.P. Kamalakara RAO and S. Augustine Chellappa 1987.

* Physiology of Domestic Animals. William O. Reece 1991.

8.3. Recommended texts* Experiments in Physiology 6th Edition. Gerard P. Tharp 1993.

* Textbook of Medical Physiology. Guyton & Hall 9th Edition. 1996. W.B. Saunders Co. (Harcourt Brace I.E.) Philadelphia, USA.

* Physiology 3rd edition. John Buuock, Joseph Boyle III and Michael B. Wang, 1995. National Medical Series for Independent Studies. Middle East Edition. Mass Publishing CO. 9Al Tahrir St., Dokki, Giza, Egypt.

8.4. Journals, Websitesetc

Journals: * Egyptian J. of Basic and Applied Physiology. Cairo, Egypt.

Websites:

WWW.Science direct

WWW. Pubmed.com

[WWW.Scholar](http://WWW.Scholar.google.com) google.com

[WWW.welly](http://WWW.wellyinterscience) interscience

Course Coordinators

Head of Department



Beni-Suef University
Faculty of Veterinary Medicine

Course specification of postgraduate



Course specification

	Topics	week	Intended learning outcomes of course (ILOs)			
	Histology of lab animal		K and U (a)	I.S (b)	P. P.S. (c)	G.T.S (d)
1	General structure of digestive system	1 st w- 9 th w	1,2,3	1,2,3	1,2,3,4	1,2,3,4,5
2	- General structure of respiratory system	10 th w- 18 th w	1,2,3	1,3	1,2,3,4	1,2,3,4,5
3	- General structure of urogenital system	19 th w- 27 th w	1,2	1,2,3	1,2,3	1,2,3,4,5
4	- General structure of lymphatic system	28 th w- 36 th w	1,2	1,2,3	1,2,3	1,2,3,4,5



Beni Suef University
Faculty of Veterinary Medicine



Beni-Suef University
Faculty of Veterinary Medicine

Course specification of postgraduate

1-Basic information

Course Code:	M-33
Course title :	PHYSIOLOGY OF ORGANS FUNCTION
Program title:	Master Degree of Veterinary Medical Sciences (Animal physiology
Contact hours/ week	2hr(practical)-2hrs(lecture)4 hrs(total)
Approval Date	

2-Professional information

Overall aims of course:

This course aims to:

- a- provide the students with basic background of important features of animal physiology.**
- b- provide the students with an appropriate background of physiology of healthy animal in its normal environment and understanding the mechanisms regulating body functions.**

3- Intended learning outcomes of course (ILOs)

a-Knowledge and understanding:

By the end of this course the student should be able to:

- a.1-describe the mechanism of action of the different body systems.
- a.2- recognize the interrelationships between the different body systems.
- a.3- outline the clinical importance of deviations in physiological processes.

b-Intellectual skills

By the end of this course the student should be able to:

- b.1. compare between the physiological effects and mechanism of action of hormones regulating a particular body function.
- b.2. detect different body systems and their functions.

C- Professional and practical skills

By the end of this course the student should be able to:

- c.1. examine and evaluate normal and abnormal functions of the animal body systems and muscles.
- c.2. demonstrate basic practical skills in handling laboratory animals.

d- General and transferable skills

By the end of studying the course, the student should be able to:

- 1- Insure effective communication.
- 2- Utilize the information technology (IT skills) in the development of physiology of body systems.
- 3- Practice self-evaluation and need assessment about function of body systems.

4-Topics and contents



Course specification of postgraduate

Course	Topic	No. of hours	Lectures	Practical
(Lec. h./week, Pract h./week) Lec, 2hrs/wk, prac 2hrs/wk	Central nervous system and special sense	12hrs	6hrs	6hrs
	Autonomic nervous system	12hrs	6hrs	6hrs
	Muscle and Nerve	12hrs	6hrs	6hrs
	Cardiovascular system	12hrs	6hrs	6hrs
	Urinary system	12hrs	6hrs	6hrs
	Digestive system	12hrs	6hrs	6hrs
	Body temperature	12hrs	6hrs	6hrs
	Blood and Body fluids	12hrs	6hrs	6hrs
	Respiration	12hrs	6hrs	6hrs
	Endocrine glands	12hrs	6hrs	6hrs
	Female reproduction	12hrs	6hrs	6hrs
	Male reproduction	12hrs	6hrs	6hrs
	Total	144hrs	72hrs	72hrs

5-Teaching and learning methods

- 5.1- Lectures (brain storm, discussion) using board, data shows
- 5.2- Self learning by preparing essays and presentations (computer researches and library)
- 5.3- Practical (models, samples of stained tissues and data show).

7-Student assessment

7.1. Assessments methods:

Method	Matrix alignment of the measured ILOs/ Assessments methods			
	K&U	I.S	P&P.S	G.S
Final Exam	a1- a2- a3	b1- b2	c1- c2	d1-d2-d3
Practical Exam	a1- a2- a3	b1- b2	c1- c2	d1-d2-d3
Oral Exam	a1- a2- a3	b1- b2	c1- c2	d1-d2-d3

7.2. Assessment schedules

Method	Week(s)
Writing exam	last week
Practical exam	last week
Oral exam	last week

7.3. Weight of assessments



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Assessment	Weight of assessment
Writing exam	50%
Practical exam	25%
Oral exam	25%
total	100%

8- List of references

8.1. Notes and books Student handbook of physiology part prepared by the department staffs

8.2. Essential books: * Textbook of Medical Physiology. Guyton & Hall 9th Edition. 1996. W.B. Saunders Co. (Harcourt Brace I.E.) Philadelphia, USA.

* Principles of Anatomy and Physiology. 4th edition. Gerard J. Tortora –Nicholas P. Anagnostakos 1975.

* Physiology 3rd edition. John Buuock, Joseph Boyle III and Michael B. Wang, 1995. National Medical Series for Independent Studies. Middle East Edition. Mass Publishing CO. 9Al Tahrir St., Dokki, Giza, Egypt.

8.3. Recommended texts* Animal physiology. ITTA Sambasiviah, A.P. Kamalakara RAO and S. Augustine Chellappa 1987.

* Physiology of Domestic Animals. William O. Reece 1991.

* Experiments in Physiology 6th Edition. Gerard P. Tharp 1993.

* Ruminant Physiology. F.B. Cornje 2000.

8.4. Journals, Websitesetc

Journals: * Egyptian J. of Basic and Applied Physiology. Cairo, Egypt

Websites:

WWW.Science direct

WWW. Pubmed.com

[WWW.Scholar](http://WWW.Scholar.google.com) google.com

[WWW.welly](http://WWW.wellyinterscience.com) interscience

Course Coordinators

Head of Department



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Course specification

	Topics	week	Intended learning outcomes of course (ILOs)			
	Histology of lab animal		K and U (a)	I.S (b)	P. P.S. (c)	G.T.S (d)
1	General structure of digestive system	1 st w- 9 th w	1,2,3	1,2,3	1,2,3,4	1,2,3,4,5
2	- General structure of respiratory system	10 th w- 18 th w	1,2,3	1,3	1,2,3,4	1,2,3,4,5
3	- General structure of urogenital system	19 th w- 27 th w	1,2	1,2,3	1,2,3	1,2,3,4,5
4	- General structure of lymphatic system	28 th w- 36 th w	1,2	1,2,3	1,2,3	1,2,3,4,5



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